

Figure 1: Evacuated Gas Sampling Pneumatic System (version 1) which resulted in fast signal rise kinetics and a relatively slow recovery time

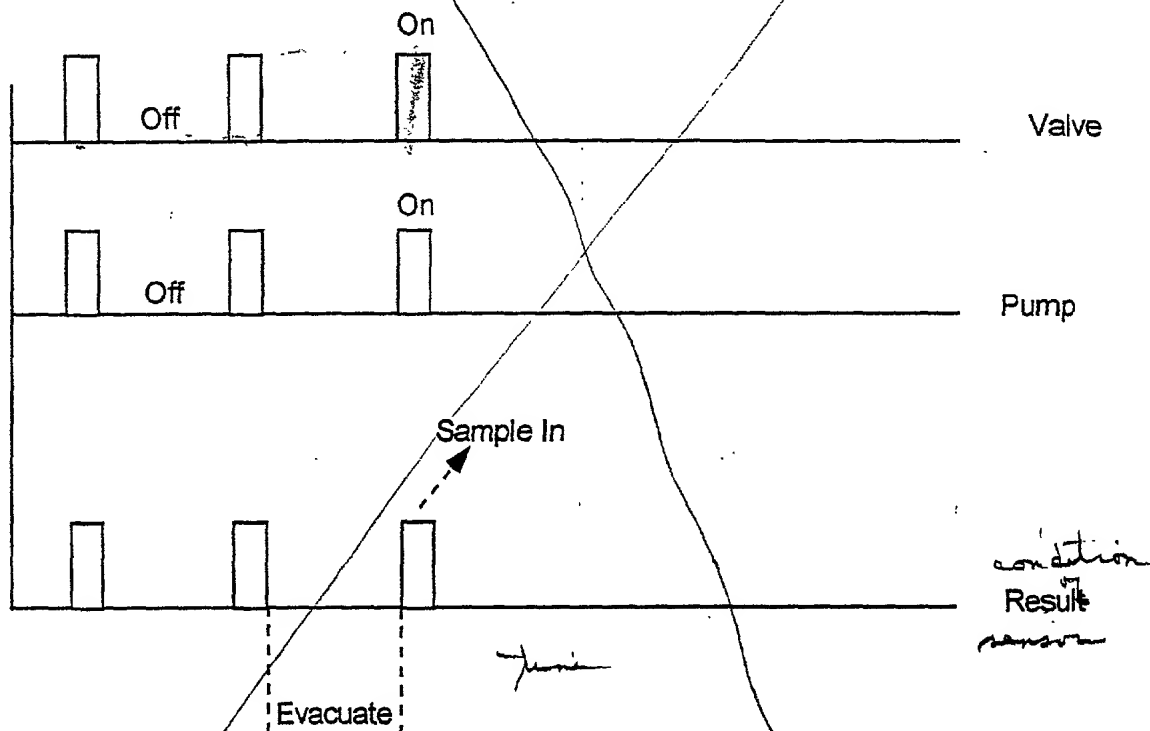
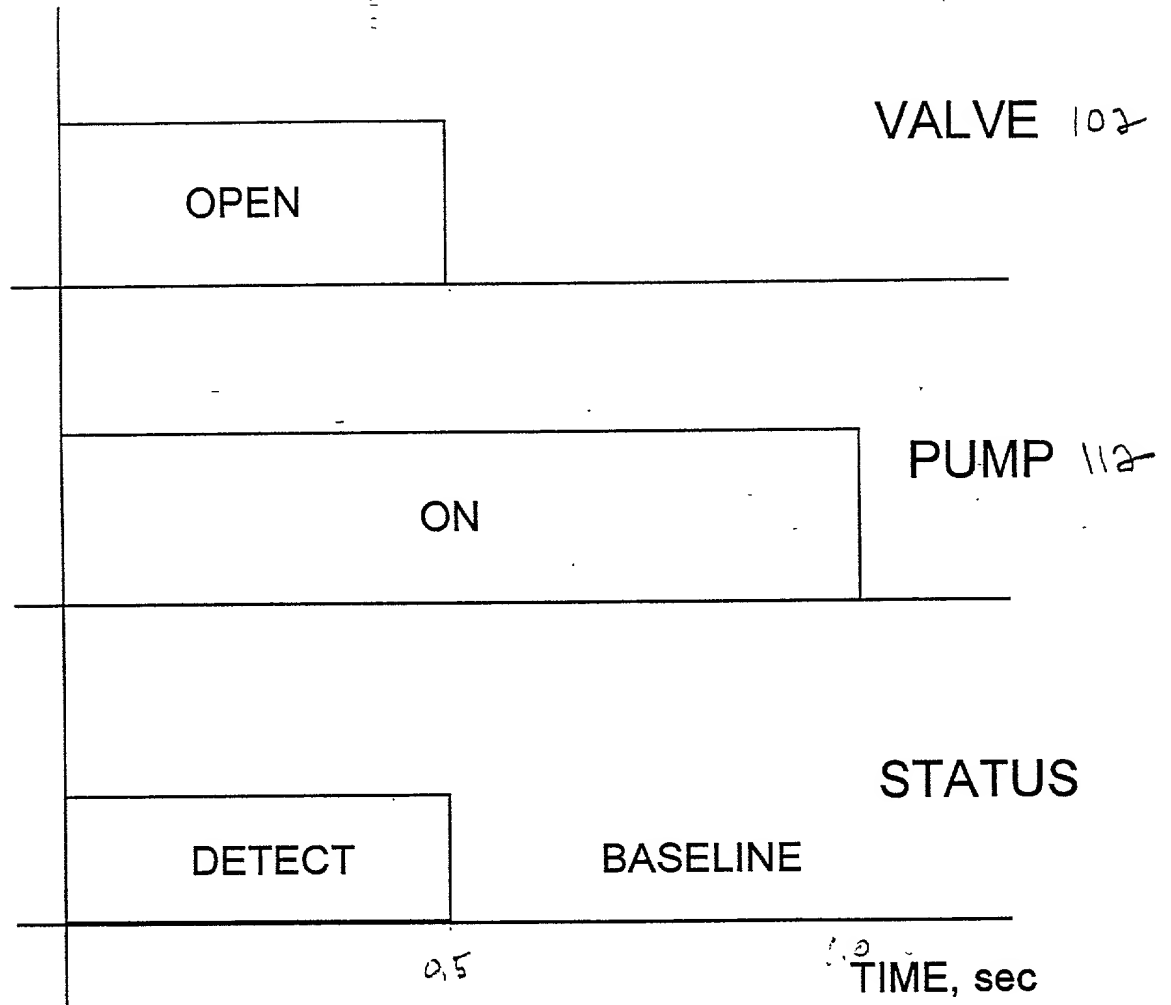


Figure 2: Gas sampling/Detect Timing Diagram of Pneumatic System

NC 22,338  
1

Fig. 2



*pump is always on*

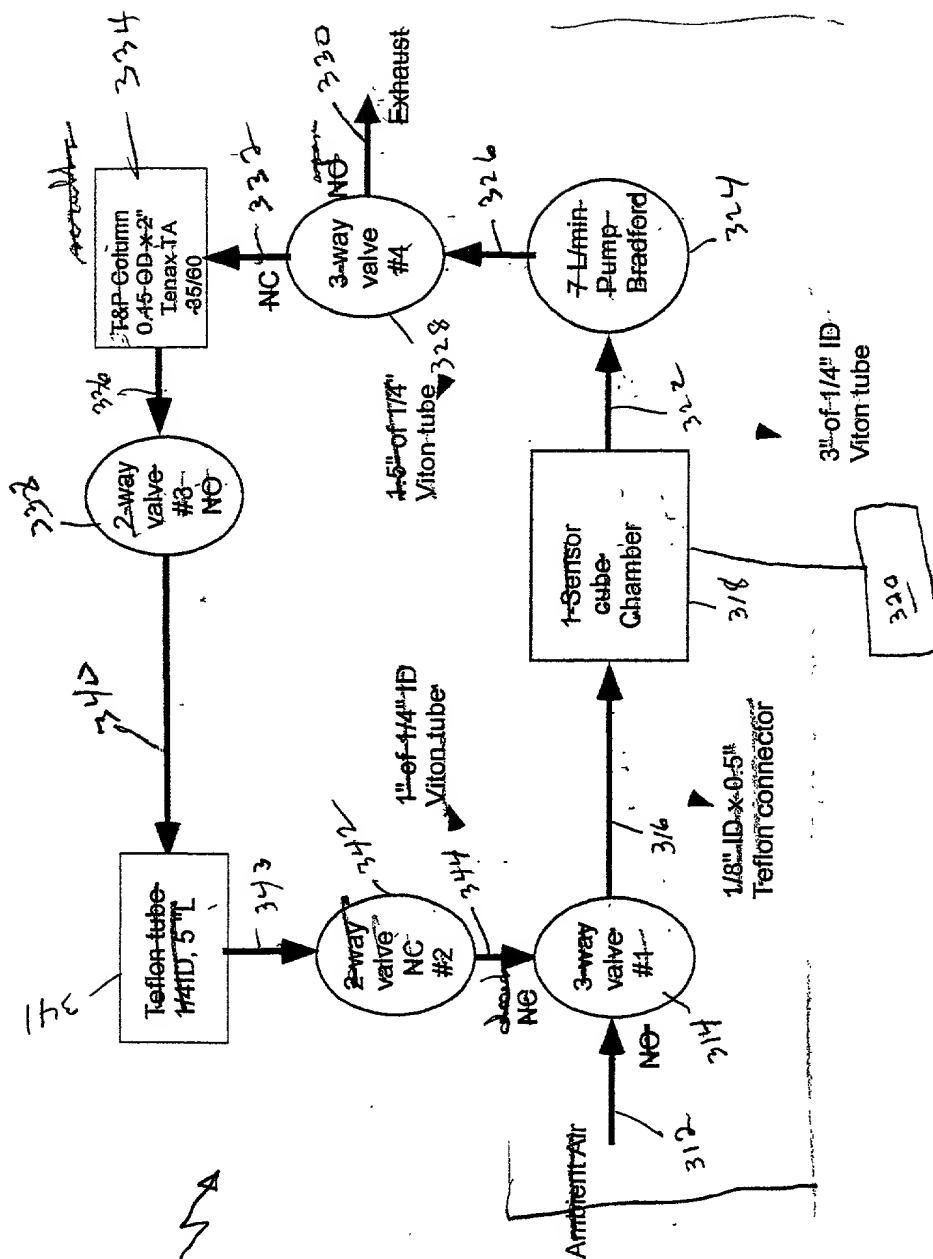
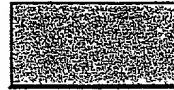


Figure 3: Improved Evacuated Gas Sampling Pneumatic System which results in rapid signal kinetics during and after vapor exposure

Valve #1 and  
Pump (max Flow rate) on



Partial  
evacuation

400

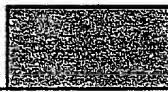
Valve  
#2, #4 On



Complete  
Evacuation

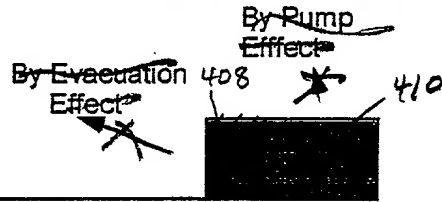
402

Valve #1 and  
Pump (max Flow rate) on



Prior  
Sampling

404



Sampling

406

Time (Sec)

0 5 10 15 20

Figure 4: Gas Sampling/ Detect Timing Diagram of pneumatic system II

*for the flush*  
*from Fig 4 and 5*

4

## Combination of high flow and Vacuum

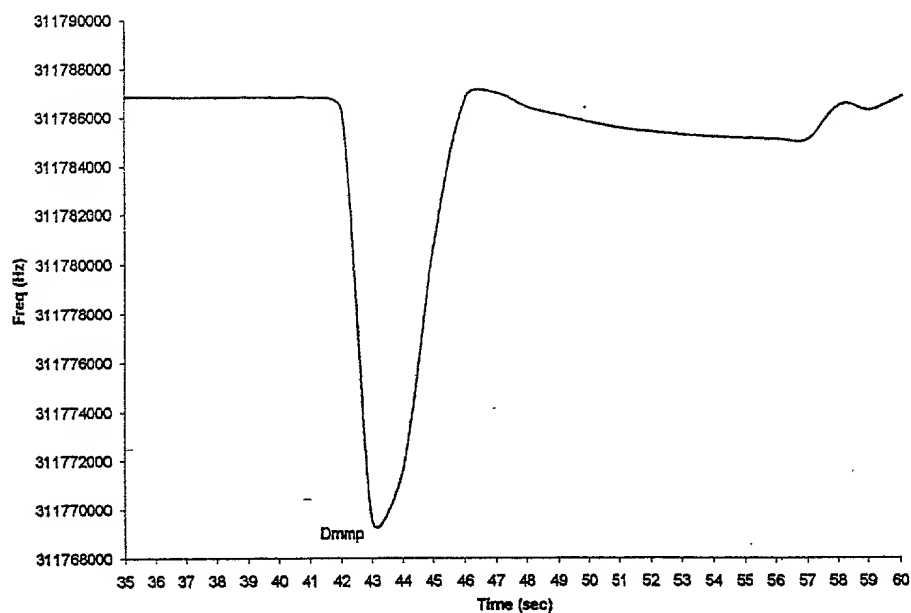


Figure 6. SAW Sensor Response Showing Fast Signal Response & Recovery Kinetics By Incorporating Pressure Modulated Pneumatics & Flow Through Purging

## Vacuum-effect

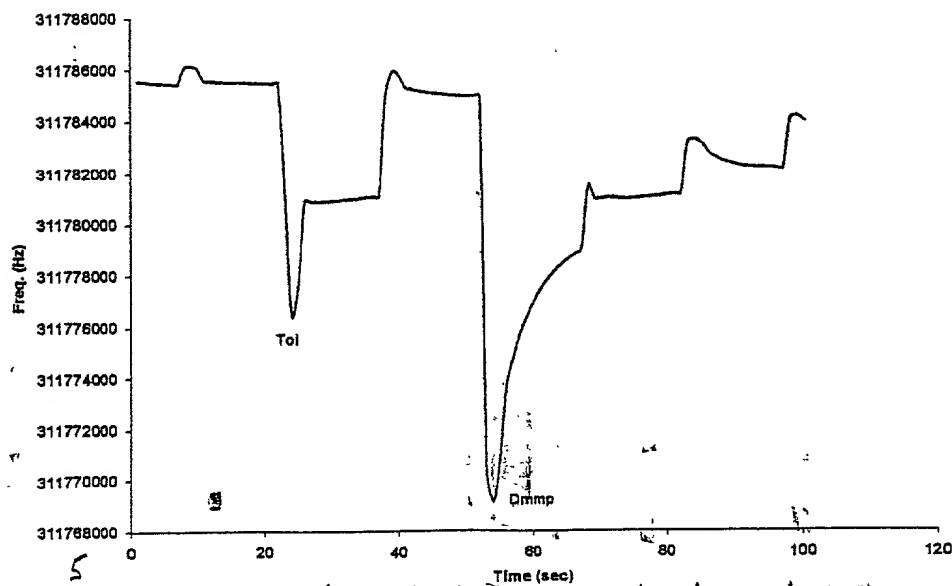


Figure 8. SAW Sensor Response Showing Fast Signal Response & Slow Recovery Kinetics By Incorporating Pressure Modulated Pneumatics Described In Figure 2